APRIL/MAY 2025

23PCA33 — ADVANCED MACHINE LEARNING TECHNIQUES

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL the questions.

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1. What is supervised learning?
2. What is data cleaning?
3. Write the general algorithm for Divide and Conquer.
4. Write the basic concepts of Bayesian algorithm?
5. What is Linear regression?
6. Define Back propagation.
7. What is bagging and boosting?
8. Name some performance measures in classification.

9. What is MLP?

10. Define tuning parameter in CNN.

SECTION B — (5 × 5 = 25 marks)

Answer ALL the questions.

11. (a) Discuss about steps to apply machine learning algorithms.

Or

(b) Explain the concept of Data structures in R.

12. (a) Discuss about Classification Using Naive Bayes.

Or

(b) Explain about identifying risky bank loans using C 5.0 decision trees.

13. (a) Define Linear Regression and predict medical expenses using regression.

Or

(b) Discuss about association rules with example.

14. (a) Discuss about clustering with k-means algorithm.

Or

(b) Describe about evaluating model performance measures.

15. (a) Write in detail about Single layer Perceptron Model.

Or

(b) Describe about Recurrent Neural Network Architectures.

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SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Briefly discuss about exploring the variables in R.

17. Briefly discuss about Classification using nearest neighbour algorithm with example.

18. Explain SVM classification with example.

19. Write in detail about improving models for better performance.

20. Discuss in detail CNN model.